

Past Paper Questions – Cumulative Frequency etc

10. The table gives information about the weights, in kilograms, of 100 pigs.

Weight of pigs (w kg)	Frequency
$65 < w \leq 70$	4
$70 < w \leq 75$	10
$75 < w \leq 80$	34
$80 < w \leq 85$	32
$85 < w \leq 90$	16
$90 < w \leq 95$	4

(a) Work out the class interval which contains the median.

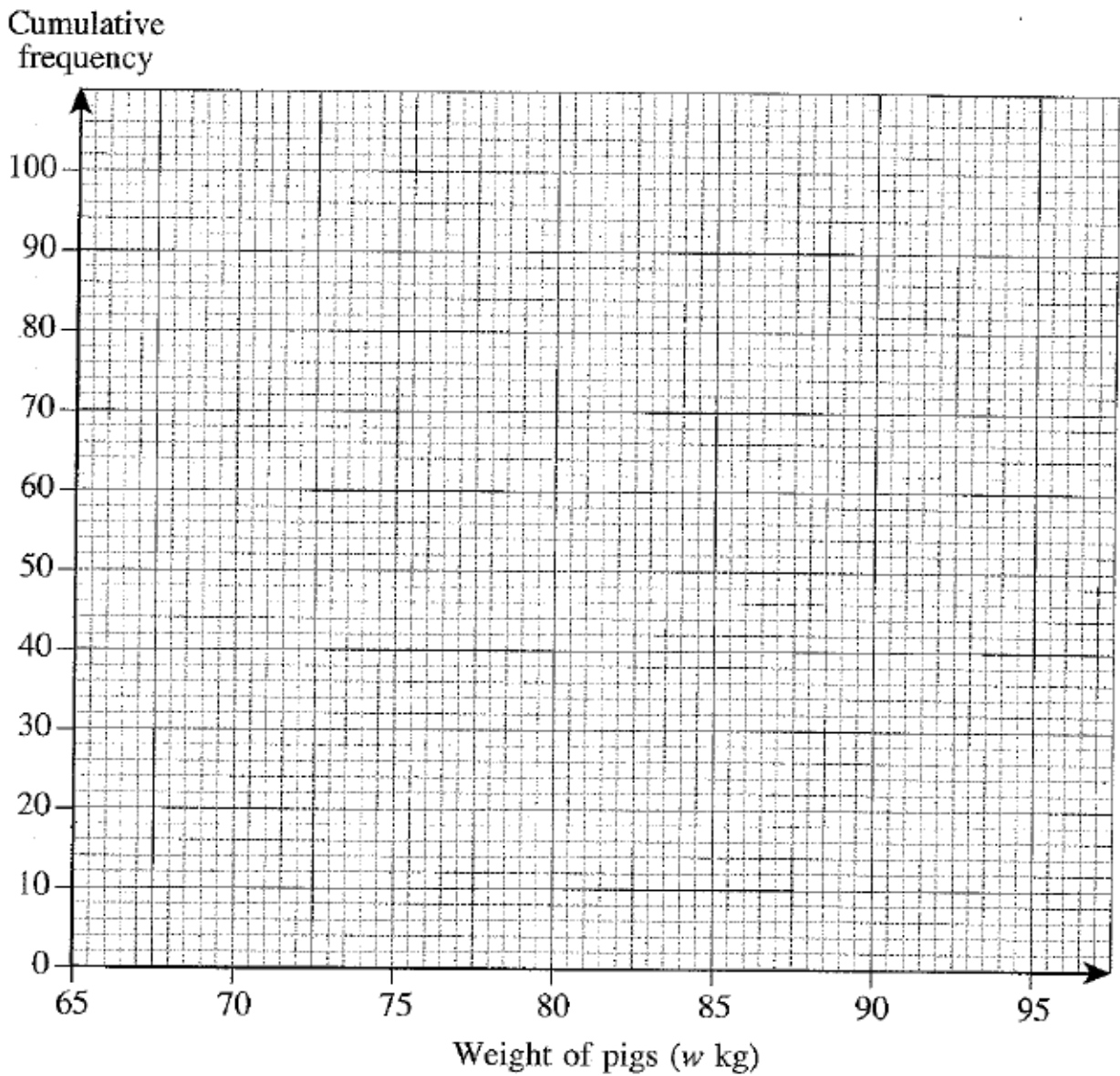
.....
(2)

(b) Complete the table below to show the cumulative frequency for this data.

Weight of pigs (w kg)	Cumulative frequency
$65 < w \leq 70$	4
$65 < w \leq 75$	
$65 < w \leq 80$	
$65 < w \leq 85$	
$65 < w \leq 90$	
$65 < w \leq 95$	100

(1)

(c) On the grid, draw a cumulative frequency graph for the data.



(3)

(d) Use your graph to work out an estimate for

(i) the interquartile range,

..... kg

(ii) the number of pigs which weigh **more** than 87.5 kg.

.....

(3)

12. 35 students with Saturday jobs took part in a survey. They were asked the hourly rate of pay for their jobs. This information is shown in the grouped frequency table below.

Hourly rate of pay (£ x)	Frequency
$3.00 < x \leq 3.50$	1
$3.50 < x \leq 4.00$	2
$4.00 < x \leq 4.50$	4
$4.50 < x \leq 5.00$	7
$5.00 < x \leq 5.50$	19
$5.50 < x \leq 6.00$	2

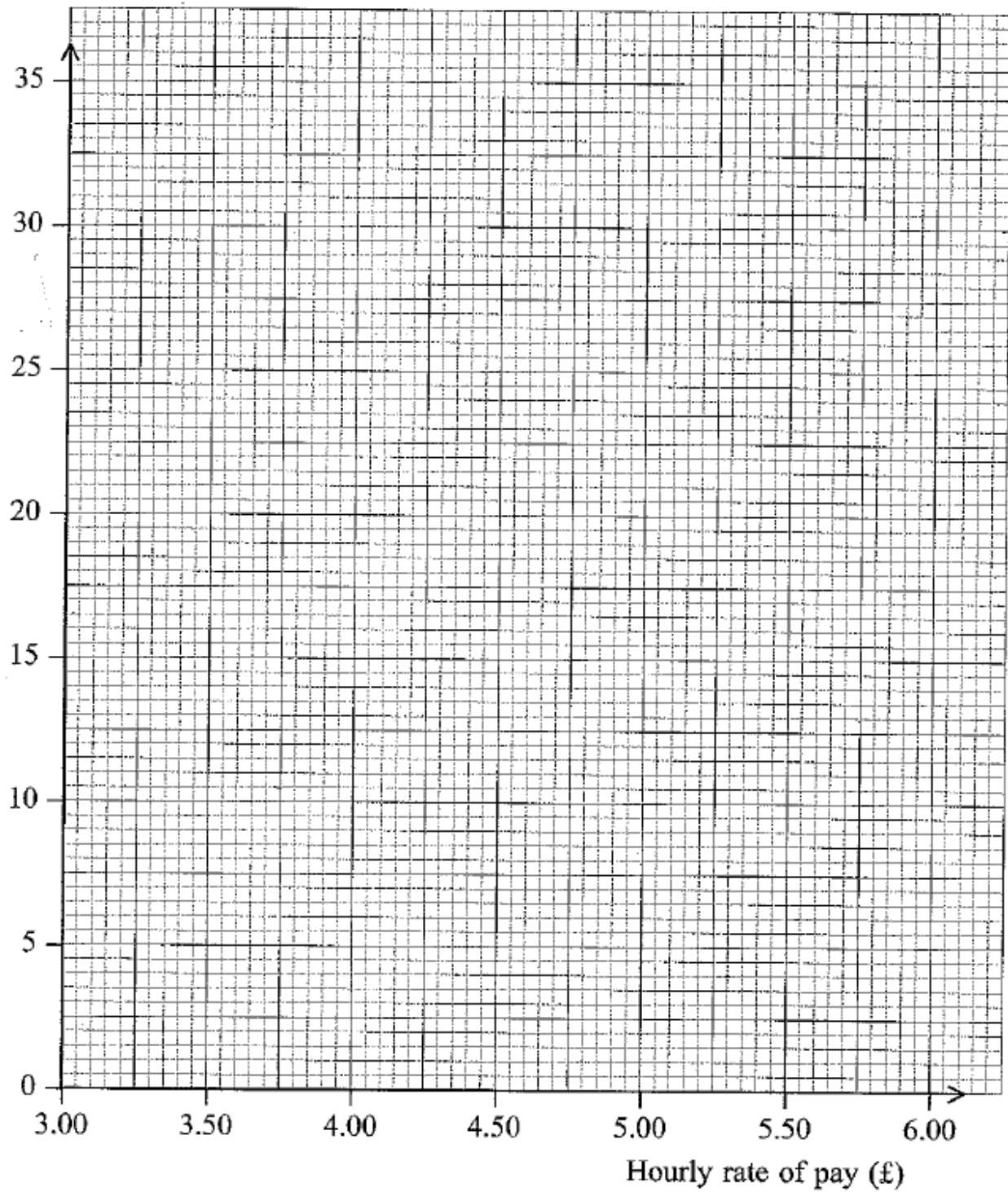
- (b) (i) Complete the table below to show the cumulative frequency.

Hourly rate of pay (£ x)	Cumulative frequency
$3.00 < x \leq 3.50$	
$3.00 < x \leq 4.00$	
$3.00 < x \leq 4.50$	
$3.00 < x \leq 5.00$	
$3.00 < x \leq 5.50$	
$3.00 < x \leq 6.00$	

- (ii) Draw the cumulative frequency graph for this data on the grid opposite.

(4)

Cumulative
frequency



(c) Use your graph to work out an estimate for the interquartile range.

£

(2)

10. At a supermarket, members of staff recorded the lengths of time that 80 customers had to wait in the queues at the check-outs.

The waiting times are grouped in the frequency table below.

Waiting time (t seconds)	Frequency
$0 < t \leq 50$	4
$50 < t \leq 100$	7
$100 < t \leq 150$	10
$150 < t \leq 200$	16
$200 < t \leq 250$	30
$250 < t \leq 300$	13

- (a) Complete the cumulative frequency table below.

Waiting time (t seconds)	Cumulative frequency
$0 < t \leq 50$	
$0 < t \leq 100$	
$0 < t \leq 150$	
$0 < t \leq 200$	
$0 < t \leq 250$	
$0 < t \leq 300$	

(2)

- (b) On the grid opposite, draw a cumulative frequency graph for this data.

(2)

- (c) Use your graph to work out an estimate for

- (i) the median waiting time,

..... seconds

- (ii) the number of these customers who had to wait for more than 3 minutes.

.....

(3)

